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ABSTRACT

This study examined which curricularists have been most influential in the formulation of curriculum theory in America since the beginning of this century. In addition the study sought to uncover the extent of theorists' reliance on the Cartesian-Newtonian model. Using a Delphi technique, the project mailed two successive questionnaires to 169 members of the Society for the Professors of Curriculum. The initial mailing asked respondents to identify those curriculum theorists they considered most influential in this century. Responses (n=115) listed from 1 to 80 theorists. The second survey listed the 11 most frequently mentioned names from the first results and requested respondents to select the five theorists they believed to be most influential. Responses to the second survey numbered 126. The most frequently mentioned theorists in this round were John Dewey (selected 109 times) and Ralph Tyler (108) followed by Hilda Taba (69) and Franklin Bobbitt (62). These four theorists are seen as representing philosophies commensurate with the traditionally dominant scientific, Cartesian-Newtonian curriculum model. An appendix contains two tables showing data from each survey. (Contains 15 references.) (JB)

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A CENTURY OF CURRICULAR PERSPECTIVES: WHICH CURRICULARIST HAS BEEN THE MOST INFLUENTIAL?

By

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1991

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ABSTRACT A Delphi study was conducted to determine which curriculartists had been the most influential in the formulation of curriculum theory in America since the beginning of the century. Members of The Society for the Professors of Curriculum received two successive questionnaires to assist in that determination. The curricular theorists whom the eminent professors concluded to be the most influential are presented commensurate with their relation to the dominant scientific curricular model. There is evidence to support the contention that the Cartesian-Newtonian model has been a dominant force in curricular theorizing for several centuries. This study examined the realities of classical science and of quantum theory as a basis for the exploration of a newly emerging curricular paradigm, which may be philosophically rooted in the tenets of quantum reality. Due to the problematical nature of curriculum studies, whether or not the realities of quantum theory provides an alternative curricular paradigm, remains speculative. However, there is evidence to indicate that the emergence of a paradigmatic shift within the curricular community is within the realm of possibility.

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INTRODUCTION

This study has examined the realities of classical science and the realities of quantum theory in an attempt to determine the philosophical roots of historical curricular theorizing and to establish a relationship between that philosophical base and the tenets of classical science. This study has also explored the possibility of a newly emerging curricular paradigm, which may be philosophically rooted in the tenets of quantum reality. Curricular reform could be equated to the scientific revolution within the scientific community. As the scientific world is reconceptualizing its vision of reality, in like manner, it may be beneficial for curricular theorists to investigate the possibilities for a transformational paradigm.

LITERATURE REVIEW

Since the beginning of civilization, humankind has had an inherent curiosity concerning nature and a fascination regarding the essence of their own existence in the world as they perceived it. Humans seek to understand the known and the unknown, and assiduously pursue the sources of knowledge and the ways of knowing.

Among those involved in that early pursuit were prominent Greek philosophers and scientists like Heraclitus, Parmenides, Socrates, Aristotle, Copernicus, and Galileo. These men and subsequent others were in quest of singular solutions to the puzzlements of nature. However, scientists today are finding the realities of nature, those self existing truths, to be pluralistic and very complex.

Alvin Toffler (1984) reaffirms Prigogine's view of the complexity of nature, stating that while structures may disappear, they may also appear and that while one process may be described by deterministic equations, another may be problematic.

An example of confirmation of the complexities of nature is apparent in the wave-particle paradox. Louis de Broglie (Wolf 1981) while trying to provide a mechanical explanation for the wave-particle duality of light, contemplated that matter, also, might have a wave nature. Broglie (Folse 1985)

discovered that systems whose behavior could be described as composed of particles could also exhibit behavior that could describe those same systems as being composed of waves. Niels Bohr's (1934) Principle of Complementarity confirmed that like light, matter had a dual nature. Bohr formulated this inconsistency into the dualism of particles and waves (Folse 1985).

Clearly, as Prigogine and Stengers (1984) have reasoned, nature does unequivocably have a pluralistic, complex character. Furthermore, there are apparently no obviously simple, singular answers to the realities sought by humankind, yet theirs is a continued quest for knowledge that is ultimate and absolute.

The method of inquiry into the laws of nature has been traditionally scientific which encompasses the realm of empirical investigation. The pattern of procedure known as the scientific method begins with the attainment of data through experimentation and observation by scientists who remain detatched and objective in their efforts. The data are then quantified, classified, and analyzed in an objective, rational, and sequential manner. Use of this systematic scientific method facilitates researchers in their attainment of results which are verifiable and devoid of error and personal bias. As a result of this knowledge being based on critical objective observations and experimental tests, the scientific method has been used as a model for other disciplines including the field of curriculum study.

Encouraged by the scientific discoveries of men like Copernicus, Galileo, and Newton, educators turned to the method of scientific inquiry as a model. Francis Bacon, (Scruton 1981) known as the father of the scientific method, firmly believed that knowledge should be systematically obtained, categorized, critically analyzed, and empirically verified. Thus, this testing of ideas against experience, Bacon (cited in Schubert 1986) claimed, would produce results that were totally objective and free from personal bias. His was an inductive method founded on part-to-whole logic and characterized by the forming of generalizations or universal laws on the basis of observed instances. It was Bacon's contention that Aristotle's deductive method provided no means for the discovery of new facts, but rather, a means of reordering facts that were previously known.

In like manner, Rene Descartes, according to Schubert's (1986) account, continued the development of empiricism that had profound effects on education. Descartes concluded that not only could knowledge be achievable by empiricism but truth could also reach the intellect through intuition. Hence, Descarte's view of nature was based on a fundamental division of mind and matter into two separate and independent domains. Descarte's dualism of mind and body, this twofold distinction, has influenced Western scientific and intellectual thought for centuries and has come to be a driving force in education as well.

William E. Doll, Jr. (1989) also notes the influence of

classical science and the scientific model upon education. He contends that Newtonian thought is part of the foundation upon which current curriculum theories are based.

This argument may be substantiated by investigating a comparison of currently dominant curriculum theories like Tyler's (1949) orderly, means-ends curriculum theory and the deterministic and mechanistic theories of Isaac Newton. Newton's view of reality held the universe as a well-organized and stable "Great Machine" that seemed to run efficiently and effortlessly by precise mathematical laws. In like manner, Tyler's curriculum by its step-by-step design and systematic approach would also be efficient, deterministic, and mechanistic.

In addition, there is evidence to support the notion of dominance of Western intellectual thought by the afore mentioned Newtonian reality and by Descartes' doctrine of dualism. This framework of reality is characteristically constructed of concepts that reduce, quantify, categorize, and segment organisms into independently separate fragments.

Likewise, there is evidence to support a doctrine of contrast, one that disputes the concept of Descartes' dualism and fragmentation. This world view, this alternate vision of reality is one of connectedness. The framework of connectedness is characteristically constructed of concepts that embrace unity, wholeness, relatedness, integration, and interaction (Oliver 1989).

Furthermore, an adverse argument may be made pertaining

to the use of a dualistic approach of segmenting and fragmenting organisms when one deliberates the fundamental concept of organism. The Oxford English Dictionary (1989) describes an organism as a body of interdependent parts which have a functional relationship with the whole. This would infer the existence of an extremely complex being or structure with components that are so intricately united that the relationship of those parts to one another is ultimately controlled by their relationship to the entity of the whole.

An interaction of parts is a mutual, reciprocal action, a condition in which everything influences everything else. The very essence of organism establishes the existence of a basic oneness, an interconnectedness that refutes prior concepts of separateness and isolated, fragmented parts.

The reality of interconnectedness brings into question the fragmenting practices upheld in the field of curriculum study which deals exclusively with organisms, both living and nonliving. According to Alvin Toffler (1974), Western civilization's continued commitment to this fragmenting and mechanistic view of reality has taken education in the direction of Newton and Descartes and used their reductionist perspectives to create curriculum practices which are rational, sequential, linear and fragmenting.

In affirmation, Lodge (1983) reiterated Doll's (1989) position that education is firmly rooted in the constructs of classical science and asserts that as a result it lacks the ability to prepare young people to cope in an ever changing world.

PURPOSE OF THE SURVEY

The basic purpose of this study was to investigate the characteristics and historical beginnings of the dominant scientific model and corresponding influence on the development of curriculum theory. The focus of this study, however, was directed toward curricular theorists' reliance upon the Cartesian-Newtonian model and factors influencing the establishment of currently used curriculum theories. Most curriculum scholars can readily mention the names of several prominent curriculum theorists whom they believe have been significant contributors in the area of curriculum theory. Nevertheless, there may not always be a consensus of opinion as to which specific curriculum theorist has had the greatest degree of influence in the formulation of curriculum theory. The purpose of this Delphi survey was to ultimately make that determination.

DEFINITION

For purposes of this study, a curriculum theorist was defined as one whose work dealt primarily with what could be classified as curriculum studies.

METHODOLOGY

This particular Delphi survey, involved the mailing of two sequential questionnaires to one hundred sixty nine (169) eminent professors of curriculum. The recognized experts in this Delphi study were those distinguished and knowledgeable professors of curriculum.

The initial mailing asked the respondents to identify those curriculum theorists whom they considered to have been the most influential in the formulation of curriculum theory in America since the beginning of this century.

The response to the initial mailing was sixty eight percent (68.04%) with one hundred fifteen (115) of the professors responding. The responding professors mentioned the names of one hundred thirty one (131) individuals whom they felt had been the most influential in curriculum theorizing. Some respondents mentioned only one (1) individual while others mentioned as many as thirty six (36). The frequency of mention ranged from one (1) to eighty (80).

The most frequently mentioned curriculum theorists included the following:

> Michael Apple, Franklin Bobbitt, Hollis Caswell, John Dewey, Elliot Eisner, John Goodlad, William Kilpatrick, James MacDonald, William Pinar, Hilda Taba, and Ralph Tyler.

A complete listing of names submitted by the respondents in the first mailing may be found in the appendix of this report.

A follow-up survey, which contained the most frequently mentioned names in the initial survey, was mailed to the

curriculum professors. The second mailing requested the respondents to select from a list of eleven (11) most frequently mentioned names, the five (5) persons whom they believed to be the most influential in developing curriculum theory.

The response to the second mailing was seventy five percent (74.55%) with one hundred twenty six (126) of the curriculum professors responding. The frequency of mention ranged from twenty one (21) to one hundred nine (109).

The curricularists receiving the most frequent mention and deemed to have been the most influential in the formulation of curriculum theory included the following:

John Dewey, 109; Ralph Tyler, 108;
Hilda Taba, 69; Franklin Bobbitt, 62.

The reader is referred to the appendix of this report for a complete listing of names elicited in the second mailing.

The execution of this survey posed no particular problems or difficulties. Nevertheless, the untimeliness of the first mailing did pose a minor inconvenient situation for both respondents and surveyor. It was unfortunate that the first survey letter was mailed to the university professors near the close of the summer session. With only a few weeks of the term remaining, they were understandably preoccupied with the routine activities of a semester's end. There were a great number of survey letters returned during the first few weeks following the mailing but there were many responses that were not returned until a few months later. The untimeliness of this first mailing may account for the

marginally lower percentage of responses as compared to the slightly higher percentage of responses for the second mailing.

The second survey letter was mailed a few weeks after the beginning of the subsequent fall semester. It is assumed that the routine activities and the traditional rush of beginning a new term had been completed, allowing the university professors a somewhat greater degree of time to respond.

RESULTS OF THE SURVEY

The curriculum professors who participated in this Delphi survey offered a variety of names representing the persons whom they considered to be influential in the formulation of curriculum theory. It was not surprising to note that the persons mentioned by the respondents represented a variety of philosophical camps ranging from realism to reconceptualism, from Thorndike and Schwab to Pinar and MacDondald. Neither was it a surprise to discover that the persons the curriculum professors deemed to be the most influential in the development of curriculum theory, Dewey, Tyler, Taba, and Bobbitt, also represented philosophies commensurate with the traditionally dominant scientific model of curriculum.

The study conducted by Harold Shane (1980) reveals Ralph Tyler's Basic Principles of Curriculum and Instruction to be equally as influential in the area of curriculum development as John Dewey's Democracy and Education. The findings of the Delphi study are commensurate with those of Shane (1980). Similarly, the eminent professors of curriculum surveyed in this study agreed that Dewey and Tyler were nearly equal in their degree of influence regarding the development of curriculum theory.

CONCLUSIONS OF THE SURVEY

The genesis of fundamental curriculum questions may be found in Herbert Spencer's (1902, p. 5) axiological question, "What knowledge is of most worth?" Although most curricular theorists would acknowledge the value of determining what knowledge should be taught in schools, they may also stress the importance of inquiry into additional areas of curriculum which might include questions of how, when, where, to whom, and for how long that knowledge should be taught.

Questions of this nature often guide curriculum workers as they nurture and formulate their individual curriculum perspectives. The perceptions and actions of individuals regarding curriculum theorizing are commensurate with individual philosophical perspectives. Furthermore, the manner in which an individual chooses to approach curriculum, students, and the various process of schooling ultimately may be contingent upon the philosophical perspectives from which that individual operates.

These individual perspectives may ultimately become powerfully influential in the process of curriculum theorizing. For example, a curricularist with philosophical roots in classical science may perceive curriculum as a predetermined series of sequential steps, whereas a curricularist with philosophical roots in quantum physics may perceive curriculum as emerging and dynamic.

The two philosophical perspectives may also hold divergent views regarding the nature of learning and the

nature of knowledge. The individual guided by the scientific model tends to believe in the existence of a universal body of absolute truths, facts, and information imperative for all humankind to know. Conversely, the individual guided by the realities of quantum theory tends to believe that truths are unique to each individual and occur on a personal level through interactions (Dobson and Dobson, 1981).

The emergence of quantum realities challenged the existing structure of classical scientific thought resulting in a paradigmatic shift within the scientific community (Wolf, 1981). Although there has been evidence to conclude that curriculum theorizing has been abysmally rooted in classical scientific methodology, to contend that quantum theory will likewise challenge or even replace the dominant scientific model for curriculum theorizing would be purely speculative. However, there may be evidence to indicate that the emergence of a paradigmatic shift within the curricular community is within the realm of possibility.

APPENDIX

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Cumulative Results - First Mailing

Responses: 115/169 (68.04%)

Theorist	Frequency
Ralph Tyler	80
John Dewey	77
Franklin Bobbitt	47
Hilda Taba	32
James MacDonald	31
Hollis Caswell	31
Michael Apple	26
Elliot Eisner	26
William Kilpatrick	25
John Goodlad	25
William Pinar	24
W. W. Charters	21
Joseph Schawb	20
Harold Rugg	20
George Beauchamp	19
George Counts	15
Dwayne Huebner	14
Boyd Bode	13
Maxine Greene	13
B. Othanel Smith	12
Arthur Foshay	12
Florence Stratemeyer	12
Alice Miel	12
Harold Alberty	11

Cumulative Results - Second Mailing

Responses: 126/169 (74.55%)

Theorist	Frequency
John Dewey	109
Ralph Tyler	108
Hilda Taba	69
Franklin Bobbitt	62
Harold Caswell	54
William Kilpatrick	51
John Goodlad	44
Michael Apple	33
James B. MacDonald	32
Elliot Eisner	31
William Pinar	21